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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,069	12/17/2001	Yong Yan	US 010666	3745

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EXAMINER	
LEE, RICHARD J	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/023,069	YAN ET AL.	
	Examiner	Art Unit	
	Richard Lee	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1, 2, 6-8, 12-14, 18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim of record (5,881,175).

Kim discloses a method and apparatus for encoding an image signal by using the contour signal as shown in Figures 1-4, and the same MPEG-4 object based encoding system and method for encoding a video image, and program product stored on a recordable medium for encoding a video image in an object based encoding system (see column 4, lines 9-42) as claimed in claims 1, 2, 6-8, 12-14, 18, and 20, comprising the same foreground encoding system (i.e., contour encoder 301 of Figure 2 encodes mask data representing foreground data (object pixels), see column 4, lines 9-42) for coding a foreground shape into a foreground video object plane; a padding system (i.e., 508 of Figure 2, see column 5, lines 6-44) that pads a masked area in a background video object plane, wherein the masked area is determined from data associated with the foreground shape; a background encoding system for coding the background video object plane (i.e., contour encoder 301 of Figure 2 encodes mask data representing background data, see column 4, lines 9-42); wherein the foreground encoding system utilizes a shape-based encoding scheme (i.e., as provided by the contour encoder 301 of Figure 2, see column 4, lines 9-42); and wherein the background object plane is shape coded (i.e., as provided by the contour encoder 301 of Figure 2, see column 4, lines 9-42).

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 3, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claims 1, 2, 6-8, 12-14, 18, and 20 in the above paragraph (1), and further in view of Itokawa of record (6,404,901).

Kim discloses substantially the same MPEG-4 object based encoding system and method for encoding a video image, and program product stored on a recordable medium for encoding a video image in an object based encoding system as above, but does not particularly disclose wherein the background encoding system utilizes a frame based encoding scheme as claimed in claims 3, 9, and 15. However, Itokawa discloses an image information processing apparatus as shown in Figure 8, and teaches the conventional frame based encoder (i.e., 108 of Figure 8, see column 5, lines 31-56) for encoding frames of background data. Therefore, it would have been obvious to one of ordinary skill in the art, having the Kim and Itokawa references in front of him/her and the general knowledge of background and foreground encodings, would have had no difficulty in providing the frame based encoder of Itokawa for encoding the background data of Kim for the same well known MPEG-4 compliant compression purposes as claimed.

4. Claims 4, 5, 10, 11, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claims 1, 2, 6-8, 12-14, 18, and 20 in the above paragraph (3), and further in view of Ostermann of record (Coding of Arbitrarily Shaped Objects with Binary and Greyscale Alpha-Maps: What Can MPEG-4 Do For You?).

Kim discloses substantially the same MPEG-4 object based encoding system and method for encoding a video image, and program product stored on a recordable medium for encoding a video image in an object based encoding system as above, but does not particularly disclose wherein the masked area is padded with zeros when the video image comprises a P or B frame

and wherein the masked area is padded with an average pixel value of the masked area when the video image comprises an I frame as claimed in claims 4, 5, 10, 11, 16, and 17. It is noted that Kim does teach the particular padding of background regions with zeros and an average value of pixel values in the object region (see column 1, lines 46-59), but Kim is silent as to the particular masked area is padded with zeros when the video image comprises a P or B frame and wherein the masked area is padded with an average pixel value of the masked area when the video image comprises an I frame as claimed. However, Ostermann discloses a shaped based object coder system and teaches the particular padding of pixels to 0 for P or B frames (i.e., inter mode, see page 275, section 3) and the padding with an average pixel of the masked area when the video image comprises an I frame (see page 275, section 3). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kim and Ostermann references in front of him/her and the general knowledge of the padding of masked areas of background regions, would have had no difficulty in providing the padding of pixels to 0 for P or B frames and the padding with an average pixel of the masked area when the video image comprises an I frame as taught by Ostermann as part of the padding circuit 508 of Kim for the same well known good resulting coding efficiency purposes as claimed.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claims 1, 2, 6-8, 12-14, 18, and 20 in the above paragraph (3), and further in view of Maeda (US 2001/0048770 A1).

Kim discloses substantially the same MPEG-4 object based encoding system and method for encoding a video image, and program product stored on a recordable medium for encoding a video image in an object based encoding system as above, but does not particularly disclose

wherein the background object plane is texture coded as claimed in claim 19. The particular use of texture coders for background objects are however old and well recognized in the art, as exemplified by Maeda (see 65 of Figure 5, and page 6, section [0110]). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kim and Maeda references in front of him/her and the general knowledge of texture video coders, would have had no difficulty in providing the texture coder of Maeda for processing the background regions of Kim for the same well known texture coding of background portions for MPEG compliant purposes as claimed.

6. Regarding the applicants' arguments at pages 6-8 of the amendment filed November 30, 2004 concerning in general that "... Applicants provide a system that separately encodes at least two video object planes, i.e., foreground and background. Conversely, Kim teaches a system that operates on only a single plane. This is plainly evident in column 4, lines 9-13 of Kim .. The system of Kim does not provide separate encoders for encoding both a foreground and a background video object plane ... The mask data of Kim is not a video object plane, and at best may consist of a portion of the data that might be contained in the same video object plane inputted to the second encoding channel. Accordingly, because Kim fails to teach a foreground encoding system for coding a foreground shape in a foreground video object plane and a background encoding system for coding a background video object plane, Applicants respectfully submit that claims 1, 7, and 13 are not anticipated by Kim ...", the Examiner respectfully disagrees. Since the video object plane signal of Kim includes both object pixels representing foreground video object plane data and background pixels representing background video object plane data, with the masking of image data to determine the foreground and background object video object data (see column 4, lines 9-26 of Kim), it is submitted that the

video object plane signal of Kim provides both a foreground video object plane and a background video object plane as claimed. Further, the foreground encoding system and background encoding system as claimed does not preclude both encoding systems being performed by one encoder. Therefore, since contour encoder 301 of Kim encodes mask data representing both foreground video object plane data and background video object plane data, it is submitted that the claimed invention is rendered anticipated by Kim.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (571) 272-7333. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

5/17/05